

### ABSTRACT OF THE DISCLOSURE

The present invention discloses a control TFT structure (i.e. a driving TFT) for reducing leakage in an OLED display. A semiconductor layer, such as a polysilicon layer, is deposited on a transparent substrate as a channel region. A lightly doped region and a drain region are disposed on one side of the polysilicon layer and a source region is disposed on the opposite side of the polysilicon layer. An insulating layer is deposited covering the surface of the polysilicon layer, the lightly doped region, and the source/drain regions. Source and drain electrodes are disposed in the insulating layer, electrically connecting the source and drain region respectively. A gate metal layer is disposed on the insulating layer, at approximately the top right portion of the polysilicon layer to form a transistor structure.